

10/792,196

CLAIMS

1. (Currently Amended) An apparatus for manufacture of foam structures, comprising:
a platform for supporting at least two foam components to be welded together;
a foam component positioning mechanism for positioning a first foam component relative to a second component, and
a foam welding head mounted to travel along an interface between the first and second foam components and operative to weld the first and second foam components together and a foam cutter operative to cut a portion of the first or second foam component proximate to a weld between the first and second foam components, wherein the foam cutter is located on the foam welding head.
2. (Original) The apparatus for manufacture of foam structures of claim 1 wherein the foam component positioning mechanism is operative to apply pressure to one of the first or second foam components relative to the other foam component.
3. (Canceled).
4. (Canceled).
5. (Original) The apparatus for manufacture of foam structures of claim 1 wherein the foam welding head comprises a blade which passes between the first and second foam components, and a heat source proximate to the blade.
6. (Original) The apparatus for manufacture of foam structures of claim 1 wherein the foam welding head is mounted and powered to travel a linear path along an interface between the first and second foam components.

10/792,196

7. (Original) The apparatus for manufacture of foam structures of claim 1 wherein the foam welding head is mounted and powered to travel a path proximate to the foam component positioning mechanism.

8. (Original) The apparatus for manufacture of foam structures of claim 1 further comprising a trimmer for trimming at least one of the foam components.

9. (Original) The apparatus for manufacture of foam structures of claim 8 wherein the trimmer comprises a cutting blade.

10. (Currently Amended) ~~The apparatus of claim 1~~ An apparatus for manufacture of foam structures, comprising:

a platform for supporting at least two foam components to be welded together;

a foam component positioning mechanism for positioning a first foam component relative to a second component, and

a foam welding head mounted to travel along an interface between the first and second foam components and operative to weld the first and second foam components together and a foam cutter operative to cut a portion of the first or second foam component proximate to a weld between the first and second foam components, wherein the foam cutter is located on the foam welding head further comprising a gripping mechanism for gripping an internal component for combination with the first or second foam components.

11. (Original) The apparatus of claim 10 wherein the gripping mechanism comprises one or more prongs which project from the platform.

12. (Original) The apparatus of claim 11 wherein the one or more prongs are operative to move toward an edge of the platform.

10/792,196

13. (Currently Amended) An apparatus for manufacture of foam structures comprising:
a platform for supporting a first foam component and a second foam component in contact with the first foam component at an interface;

a clamp for maintaining the second foam component in a position relative to the first foam component;

and a welding head operative to weld the first foam component to the second foam component at the interface, the welding head having an interface blade and a nozzle configured to pass through the interface, and a trimmer operative to trim one of the foam components, wherein the trimmer is mounted on the welding head.

14. (Canceled).

15. (Canceled).

16. (Original) The apparatus for manufacture of foam structures of claim 13 further comprising at least one gripper associated with the platform.

17. (Original) The apparatus for manufacture of foam structures of claim 13 further comprising a heated gas source connected to the nozzle of the welding head.

18. (Original) The apparatus for manufacture of foam structures of claim 13 wherein the welding head is mounted upon a track for movement relative to one of the foam components on the platform.

19. (Original) The apparatus for manufacture of foam structures of claim 13 wherein the clamp is configured to press one of the foam components against another of the foam components at an interface between the foam components to be welded together by operation of the welding head.

10/792,196

20. (Original) The apparatus for manufacture of foam structures of claim 13 further comprising a rail adjacent to the platform and the welding head.
21. (Original) The apparatus for manufacture of foam structures of claim 13 further comprising a heating element attached to the welding head.
22. (Original) The apparatus for manufacture of foam structures of claim 13 wherein the nozzle of the welding head comprises ports for directing heated gas to the interface of the foam components.
23. (Currently Amended) An apparatus for forming a weld between two separate foam components, the apparatus comprising:
- a platform for supporting first and second foam components;
 - a rail proximate to the platform and located for positioning at least one of the foam components proximate to the rail;
 - a welding head mounted to translate upon a track generally aligned with the rail, the welding head having an interface blade positioned to travel between an interface of the two foam components, and a nozzle adapted to distribute a heated gas at the interface of the two foam components, and a second rail, a second track and a second welding head associated with the platform.
24. (Canceled).
25. (Original) The apparatus of claim 23 further comprising a drive mechanism operative to drive the welding head along the track and along the interface of the foam components.
26. (Original) The apparatus of claim 23 further comprising a clamp operative to press one of the foam components against another of the foam components.

10/792,196

27. (Original) The apparatus of claim 23 wherein the clamp is generally aligned with one of the rails.

28. (Original) The apparatus of claim 23 further comprising a trimmer operative to trim one of the foam components.

29. (Original) The apparatus of claim 28 wherein the trimmer is in the form of a circular rotating blade.

30. (Original) The apparatus of claim 23 further comprising a welding energy source coupler connected to the welding head.

31. (Original) The apparatus of claim 23 further comprising a gripping mechanism for gripping a component relative to the platform.

32. (Original) The apparatus of claim 31 wherein the gripping mechanism is in the form of one or more prongs operative to engage a component on the platform.

33-38. (Canceled).